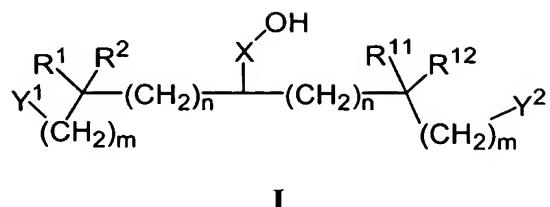


WHAT IS CLAIMED:

1. A compound of the formula I:



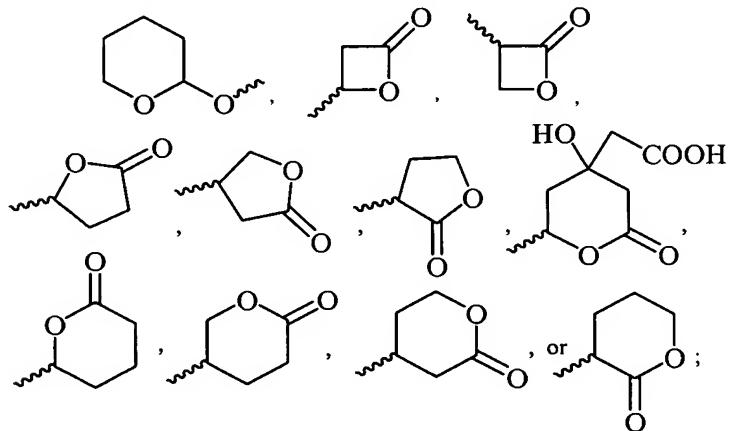
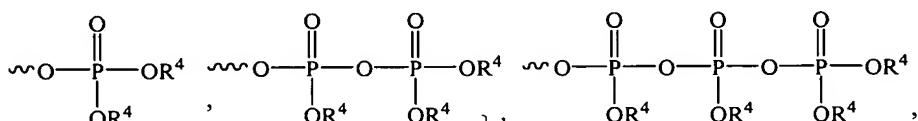
5 or a pharmaceutically acceptable salt, hydrate, solvate or mixture thereof, wherein:

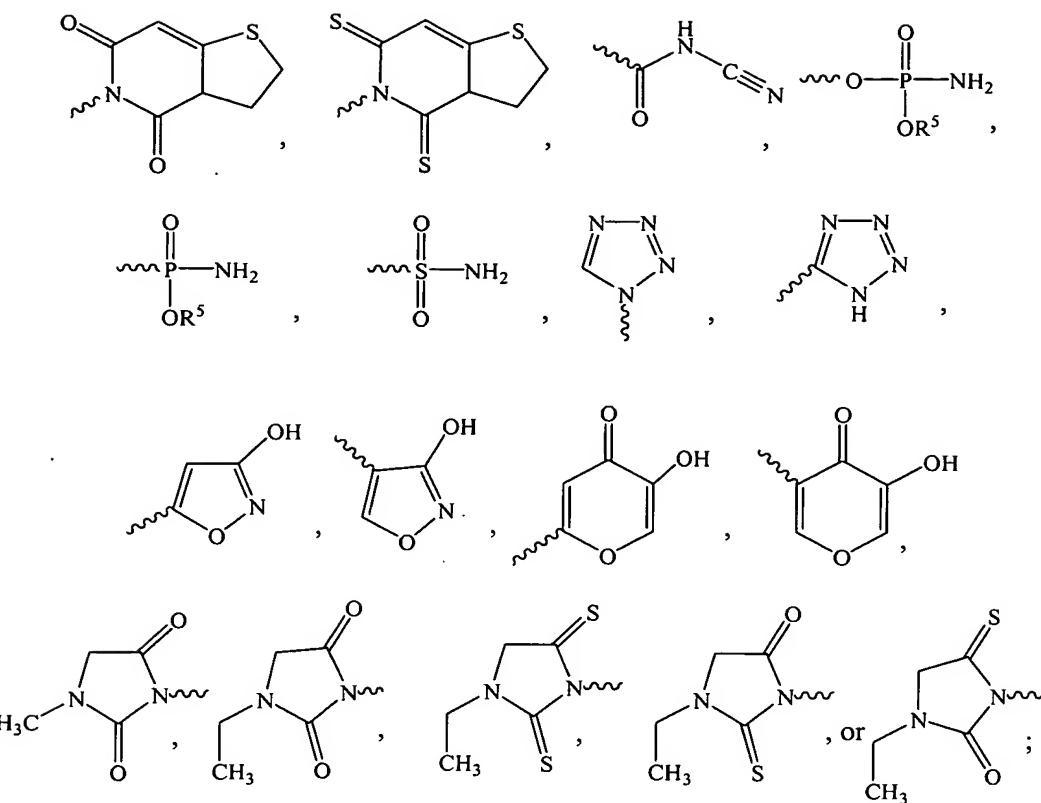
- (a) each occurrence of m is independently an integer ranging from 0 to 5;
- (b) each occurrence of n is independently an integer ranging from 3 to 7;
- (c) X is  $(\text{CH}_2)_z$  or Ph, wherein z is an integer from 0 to 4 and Ph is a 1,2-, 1,3-, or 1,4 substituted phenyl group;

10 (d) each occurrence of  $\text{R}^1$ ,  $\text{R}^2$ ,  $\text{R}^{11}$ , and  $\text{R}^{12}$  is independently H,  $(\text{C}_1\text{---C}_6)$ alkyl,  $(\text{C}_2\text{---C}_6)$ alkenyl,  $(\text{C}_2\text{---C}_6)$ alkynyl, phenyl, or benzyl, wherein  $\text{R}^1$ ,  $\text{R}^2$ ,  $\text{R}^{11}$ , and  $\text{R}^{12}$  are not each simultaneously H; and

- (e) each occurrence of  $\text{Y}^1$  and  $\text{Y}^2$  is independently  $(\text{C}_1\text{---C}_6)$ alkyl, OH, COOH,  $\text{COOR}^3$ ,  $\text{SO}_3\text{H}$ ,

15





wherein:

- (i)  $Y^1$  and  $Y^2$  are not each simultaneously  $(C_1-C_6)alkyl$ ;
- (ii)  $R^3$  is  $(C_1-C_6)alkyl$ ,  $(C_2-C_6)alkenyl$ ,  $(C_2-C_6)alkynyl$ , phenyl, or benzyl and is unsubstituted or substituted with one or more halo, OH,  $(C_1-C_6)alkoxy$ , or phenyl groups,
- (iii) each occurrence of  $R^4$  is independently H,  $(C_1-C_6)alkyl$ ,  $(C_2-C_6)alkenyl$ , or  $(C_2-C_6)alkynyl$  and is unsubstituted or substituted with one or two halo, OH,  $C_1-C_6$  alkoxy, or phenyl groups; and
- (iv) each occurrence of  $R^5$  is independently H,  $(C_1-C_6)alkyl$ ,  $(C_2-C_6)alkenyl$ , or  $(C_2-C_6)alkynyl$ .

2. The compound of claim 1, wherein each occurrence of Y<sup>1</sup> and Y<sup>2</sup> is  
15 independently OH, COOR<sup>3</sup>, or COOH.

3. The compound of claim 1, wherein m is 0.

4. The compound of claim 1, wherein m is 1.

5. The compound of claim 1, wherein n is 4.

6. The compound of claim 1, wherein n is 5.

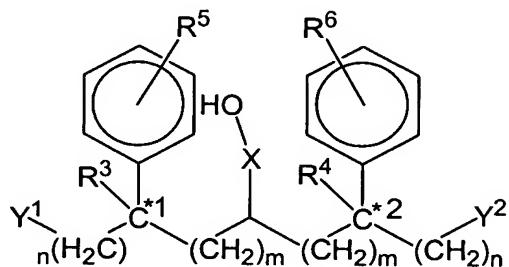
7. The compound of claim 1, wherein z is 0.

5 8. The compound of claim 1, wherein z is 1.

9. The compound of claim 1, wherein Y<sup>1</sup> is (C<sub>1</sub>–C<sub>6</sub>)alkyl and Y<sup>2</sup> is OH.

10. The compound of claim 1, wherein Y<sup>1</sup> is methyl and Y<sup>2</sup> is OH.

11. A compound of formula **II**:



10

**II**

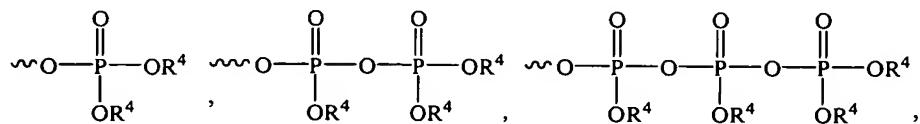
or a pharmaceutically acceptable salt, hydrate, solvate, or mixture thereof, wherein:

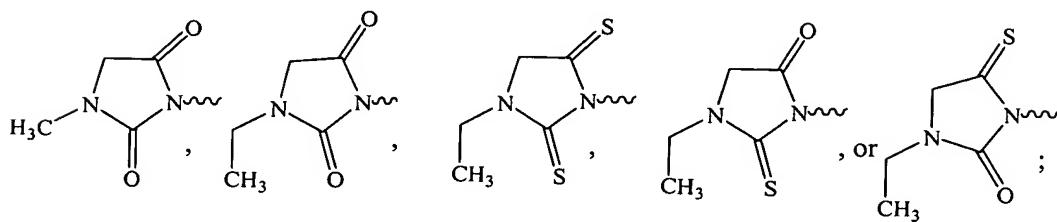
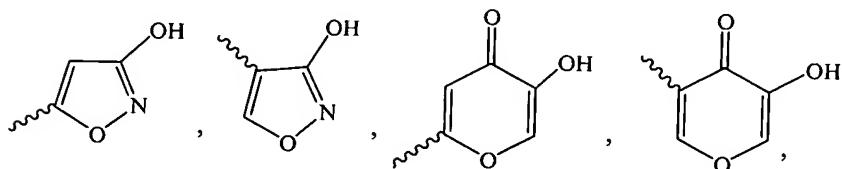
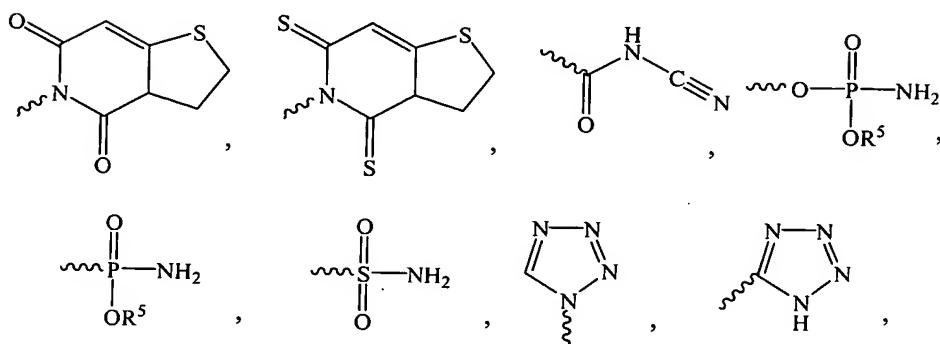
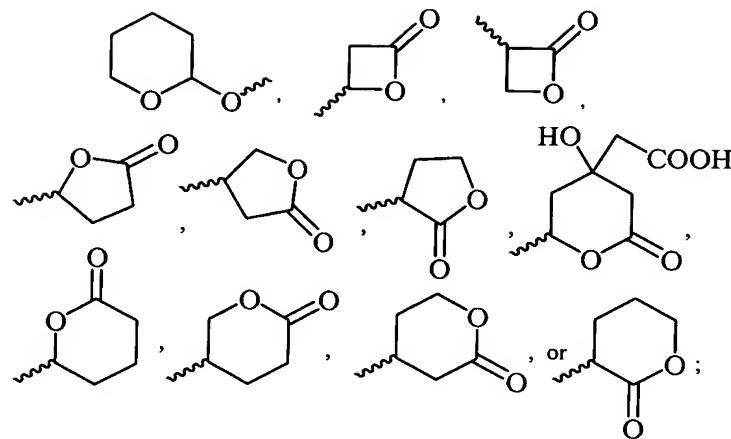
(a) each occurrence of m is independently an integer ranging from 3 to 7;

(b) each occurrence of n is independently an integer ranging from 0 to 5;

(c) X is (CH<sub>2</sub>)<sub>z</sub> or Ph, wherein z is an integer from 0 to 4 and Ph is a 1,2-, 1,3-, or 1,4-15 substituted phenyl group;

(d) each occurrence of Y<sup>1</sup> and Y<sup>2</sup> independently (C<sub>1</sub>–C<sub>6</sub>)alkyl, OH, COOH, COOR<sup>7</sup>, SO<sub>3</sub>H,





wherein:

5

(i)  $R^7$  is ( $C_1$ – $C_6$ )alkyl, ( $C_2$ – $C_6$ )alkenyl, ( $C_2$ – $C_6$ )alkynyl, phenyl, or benzyl and is unsubstituted or substituted with one or more halo, OH, ( $C_1$ – $C_6$ )alkoxy, or phenyl groups,

(ii) each occurrence of  $R^8$  is independently H,  $(C_1-C_6)$ alkyl,  $(C_2-C_6)$ alkenyl, or  $(C_2-C_6)$ alkynyl and is unsubstituted or substituted with one or two halo, OH,  $C_1-C_6$  alkoxy, or phenyl groups,

(iii) each occurrence of  $R^9$  is independently H,  $(C_1-C_6)$ alkyl,  $(C_2-C_6)$ alkenyl, or  $(C_2-C_6)$ alkynyl;

(e)  $R^3$  and  $R^4$  are  $(C_1-C_6)$ alkyl,  $(C_2-C_6)$ alkenyl,  $(C_2-C_6)$ alkynyl, phenyl, or benzyl;

(f)  $R^5$  and  $R^6$  are H, halogen,  $(C_1-C_4)$ alkyl,  $(C_1-C_4)$ alkoxy,  $(C_6)$ aryloxy, CN, or  $NO_2$ ,  
5  $N(R^5)_2$  where  $R^5$  is H,  $(C_1-C_4)$  alkyl, phenyl, or benzyl;

(g)  $C^{*1}$  and  $C^{*2}$  represent independent chiral-carbon centers wherein each center may independently be R or S.

12. The compound of claim 11, wherein each occurrence of  $Y^1$  and  $Y^2$  is independently OH,  $COOR^7$ , or COOH.

10 13. The compound of claim 11, wherein m is 4.

14. The compound of claim 11, wherein m is 5.

15. The compound of claim 11, wherein X is  $(CH_2)_z$  and z is 0.

16. The compound of claim 11, wherein X is  $(CH_2)_z$  and z is 1.

17. The compound of claim 11, wherein each of  $Y^1$  and  $Y^2$  is  $C(O)OH$  or  
15  $CH_2OH$ .

18. The compound of claim 11, wherein  $R^3$  and  $R^4$  are each independently  $(C_1-C_6)$  alkyl.

19. The compound of claim 11, wherein  $R^3$  and  $R^4$  are each methyl.

20. The compound of claim 11, wherein  $C^{*1}$  is of the stereochemical  
20 configuration R or substantially R.

21. The compound of claim 11, wherein  $C^{*1}$  is of the stereochemical configuration S or substantially S.

22. The compound of claim 11, wherein C\*<sup>2</sup> is of the stereochemical configuration R or substantially R.

23. The compound of claim 11, wherein C\*<sup>2</sup> is of the stereochemical configuration S or substantially S.

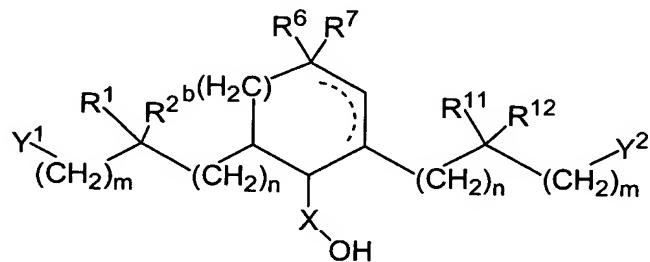
5 24. The compound of claim 11, wherein C\*<sup>1</sup> and C\*<sup>2</sup> are of the stereochemical configuration (S<sup>1</sup>, S<sup>2</sup>) or substantially (S<sup>1</sup>, S<sup>2</sup>).

25. The compound of claim 11, wherein C\*<sup>1</sup> and C\*<sup>2</sup> are of the stereochemical configuration (S<sup>1</sup>, R<sup>2</sup>) or substantially (S<sup>1</sup>, R<sup>2</sup>).

10 26. The compound of claim 11, wherein C\*<sup>1</sup> and C\*<sup>2</sup> are of the stereochemical configuration (R<sup>1</sup>, R<sup>2</sup>) or substantially (R<sup>1</sup>, R<sup>2</sup>).

27. The compound of claim 11, wherein C\*<sup>1</sup> and C\*<sup>2</sup> are of the stereochemical configuration (R<sup>1</sup>, S<sup>2</sup>) or substantially (R<sup>1</sup>, S<sup>2</sup>).

28. A compound of the formula III:



15

III

or a pharmaceutically acceptable salt, hydrate, solvate, or mixture thereof, wherein

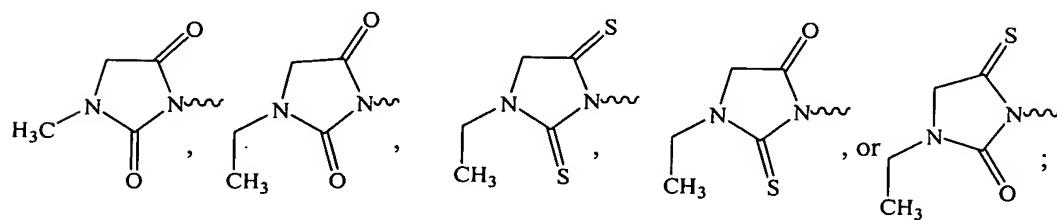
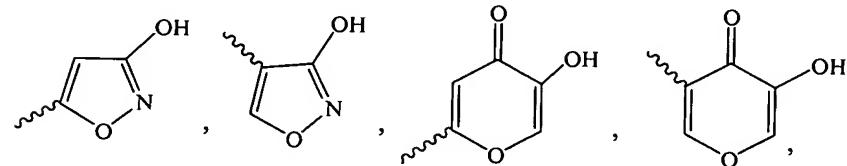
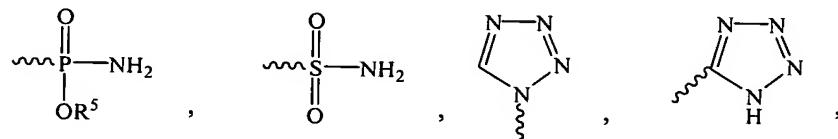
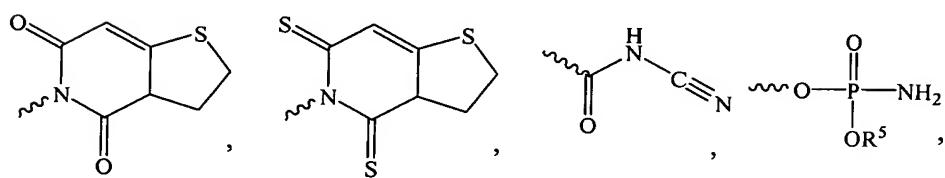
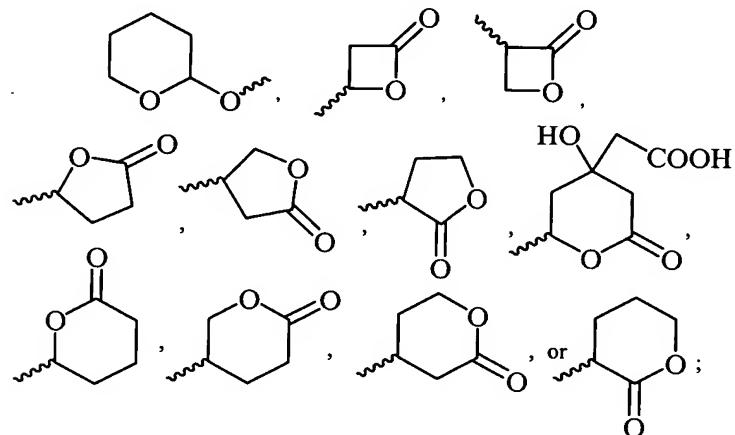
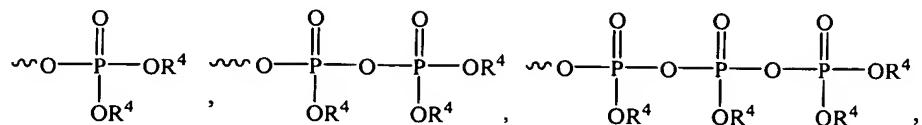
(a) each occurrence of R<sup>1</sup>, R<sup>2</sup>, R<sup>6</sup>, R<sup>7</sup>, R<sup>11</sup>, or R<sup>12</sup> is independently hydrogen, (C<sub>1</sub>–C<sub>6</sub>)alkyl, (C<sub>2</sub>–C<sub>6</sub>)alkenyl, (C<sub>2</sub>–C<sub>6</sub>)alkynyl, phenyl, or benzyl;

(b) each occurrence of n is independently an integer ranging from 1 to 7;

20 (c) X is (CH<sub>2</sub>)<sub>z</sub> or Ph, wherein z is an integer from 0 to 4 and Ph is a 1,2-, 1,3-, or 1,4-substituted phenyl group;

(d) each occurrence of m is independently an integer ranging from 0 to 4;

(e) each occurrence of  $Y^1$  and  $Y^2$  is independently ( $C_1$ – $C_6$ )alkyl,  $CH_2OH$ ,  $C(O)OH$ ,  $OC(O)R^3$ ,  $C(O)OR^3$ ,  $SO_3H$ ,



wherein:

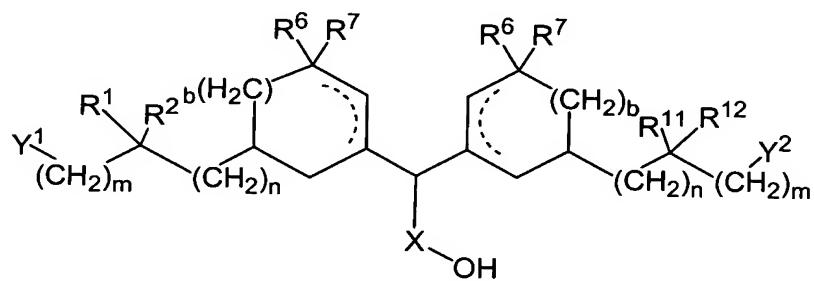
(i)  $R^3$  is  $(C_1-C_6)$ alkyl,  $(C_2-C_6)$ alkenyl,  $(C_2-C_6)$ alkynyl, phenyl, or benzyl and is unsubstituted or substituted with one or more halo, OH,  $(C_1-C_6)$ alkoxy, or phenyl groups,

5 (ii) each occurrence of  $R^4$  is independently H,  $(C_1-C_6)$ alkyl,  $(C_2-C_6)$ alkenyl, or  $(C_2-C_6)$ alkynyl and is unsubstituted or substituted with one or two halo, OH,  $C_1-C_6$  alkoxy, or phenyl groups;

(iii) each occurrence of  $R^5$  is independently H,  $(C_1-C_6)$ alkyl,  $(C_2-C_6)$ alkenyl, or  $(C_2-C_6)$ alkynyl; and

10 (f) b is 0 or 1 and optionally the ring contains the presence of one or more additional carbon-carbon bonds that when present complete one or more carbon-carbon double bonds such that when b is 0 the maximum number of carbon-carbon bonds is two or when b is 1 the maximum number of carbon-carbon bonds is three.

29. A compound of the formula IV:



15 or a pharmaceutically acceptable salt, hydrate, solvate, or mixture thereof, wherein

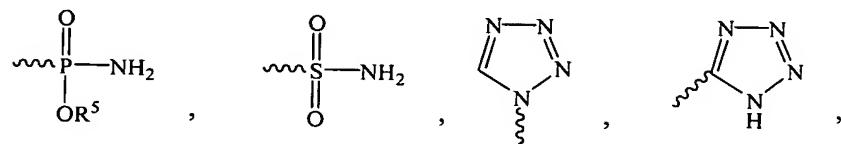
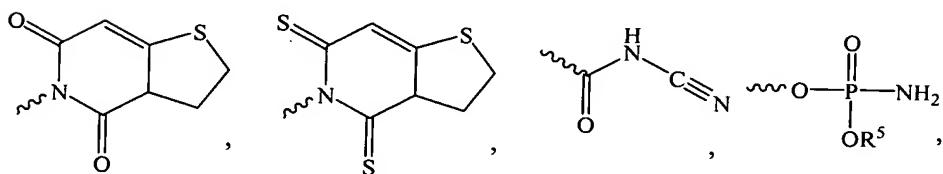
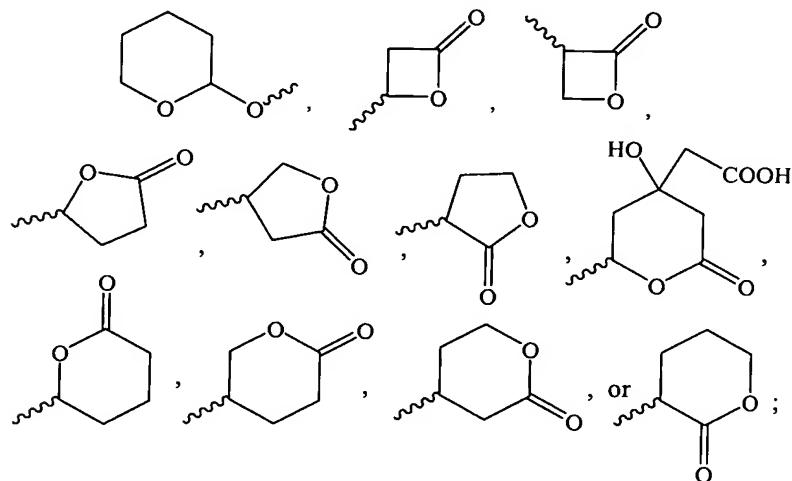
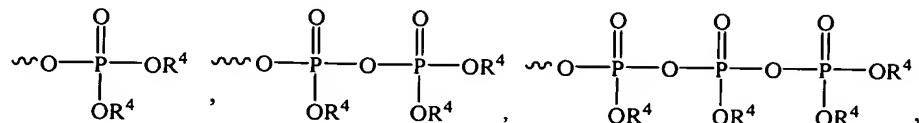
(a) each occurrence of  $R^1$ ,  $R^2$ ,  $R^6$ ,  $R^7$ ,  $R^{11}$ , or  $R^{12}$  is independently hydrogen,  $(C_1-C_6)$ alkyl,  $(C_2-C_6)$ alkenyl,  $(C_2-C_6)$ alkynyl, phenyl, or benzyl;

(b) each occurrence of n is independently an integer ranging from 1 to 7;

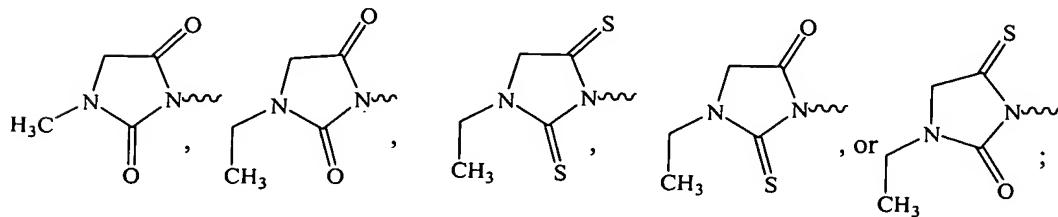
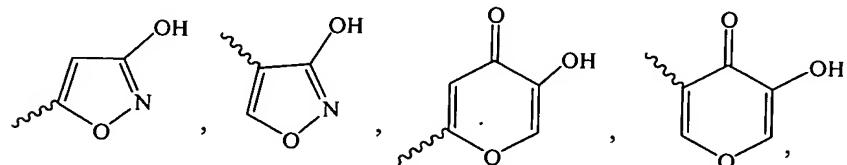
20 (c) X is  $(CH_2)_z$  or Ph, wherein z is an integer from 0 to 4 and Ph is a 1,2-, 1,3-, or 1,4-substituted phenyl group;

(d) each occurrence of m is independently an integer ranging from 0 to 4;

(e) each occurrence of  $Y^1$  and  $Y^2$  is independently ( $C_1$ – $C_6$ )alkyl,  $CH_2OH$ ,  $C(O)OH$ ,  $OC(O)R^3$ ,  $C(O)OR^3$ ,  $SO_3H$ ,



5



wherein:

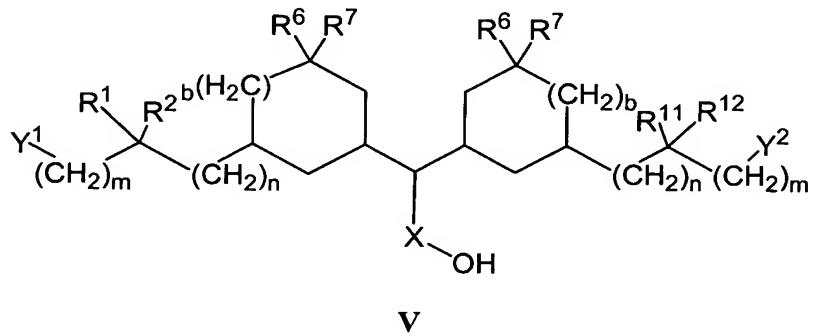
(i)  $R^3$  is  $(C_1-C_6)$ alkyl,  $(C_2-C_6)$ alkenyl,  $(C_2-C_6)$ alkynyl, phenyl, or benzyl and is unsubstituted or substituted with one or more halo, OH,  $(C_1-C_6)$ alkoxy, or phenyl groups,

5 (ii) each occurrence of  $R^4$  is independently H,  $(C_1-C_6)$ alkyl,  $(C_2-C_6)$ alkenyl, or  $(C_2-C_6)$ alkynyl and is unsubstituted or substituted with one or two halo, OH,  $C_1-C_6$  alkoxy, or phenyl groups;

(iii) each occurrence of  $R^5$  is independently H,  $(C_1-C_6)$ alkyl,  $(C_2-C_6)$ alkenyl, or  $(C_2-C_6)$ alkynyl; and

10 (f) each occurrence of  $b$  is independently 0 or 1 and optionally each of the rings independently contains the presence of one or more additional carbon-carbon bonds that when present complete one or more carbon-carbon double bonds such that when  $b$  is 0 the maximum number of carbon-carbon bonds is two or when  $b$  is 1 the maximum number of carbon-carbon bonds is three.

30. A compound of the formula V:



or a pharmaceutically acceptable salt, hydrate, solvate, or mixtures thereof, wherein

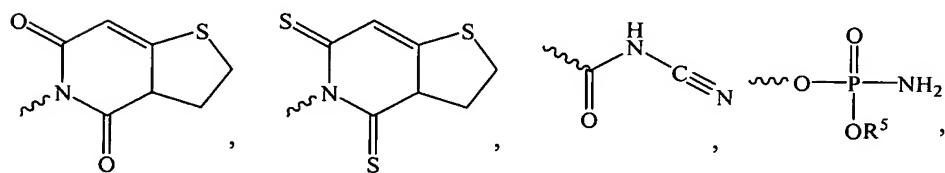
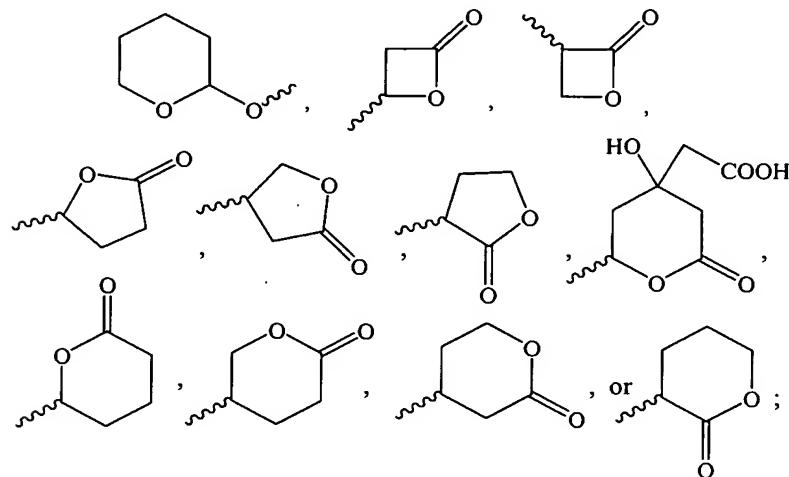
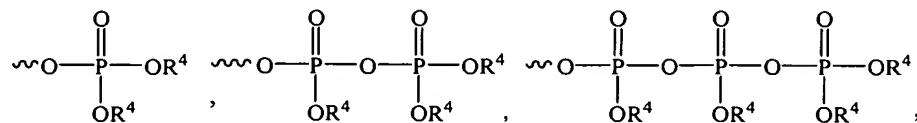
(a) each occurrence of  $R^1$ ,  $R^2$ ,  $R^6$ ,  $R^7$ ,  $R^{11}$ , or  $R^{12}$  is independently hydrogen,  $(C_1-C_6)$ alkyl,  $(C_2-C_6)$ alkenyl,  $(C_2-C_6)$ alkynyl, phenyl, or benzyl;

20 (b) each occurrence of  $n$  is independently an integer ranging from 1 to 7;

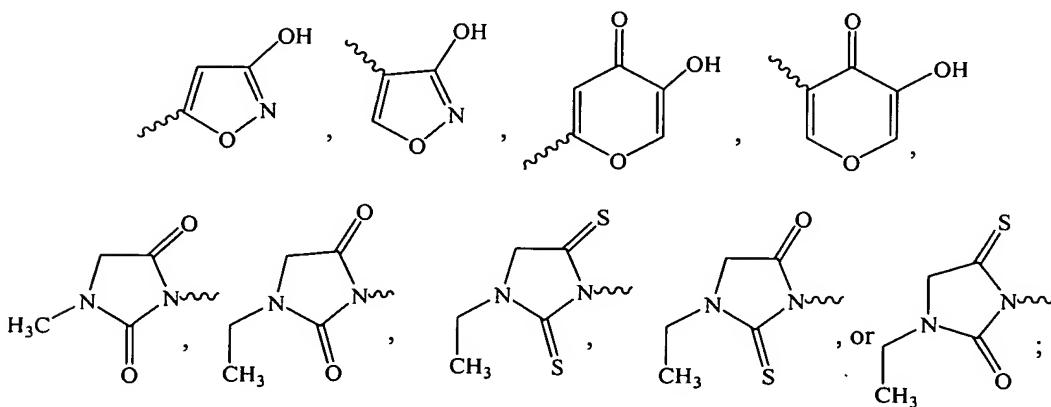
(c) X is  $(CH_2)_z$  or Ph, wherein z is an integer from 0 to 4 and Ph is a 1,2-, 1,3-, or 1,4 substituted phenyl group;

(d) each occurrence of  $m$  is independently an integer ranging from 0 to 4;

(e) each occurrence of  $Y^1$  and  $Y^2$  is independently ( $C_1$ – $C_6$ )alkyl,  $CH_2OH$ ,  $C(O)OH$ ,  $OC(O)R^3$ ,  $C(O)OR^3$ ,  $SO_3H$ ,



5



wherein:

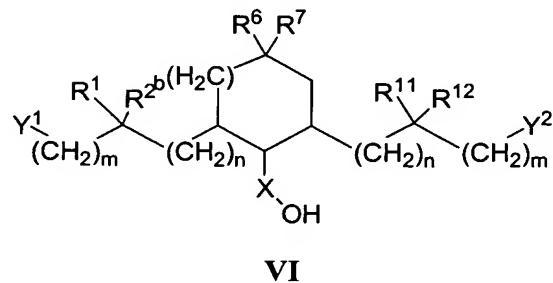
(i)  $R^3$  is  $(C_1-C_6)$ alkyl,  $(C_2-C_6)$ alkenyl,  $(C_2-C_6)$ alkynyl, phenyl, or benzyl and is unsubstituted or substituted with one or more halo, OH,  $(C_1-C_6)$ alkoxy, or phenyl groups,

5 (ii) each occurrence of  $R^4$  is independently H,  $(C_1-C_6)$ alkyl,  $(C_2-C_6)$ alkenyl, or  $(C_2-C_6)$ alkynyl and is unsubstituted or substituted with one or two halo, OH,  $C_1-C_6$  alkoxy, or phenyl groups;

(iii) each occurrence of  $R^5$  is independently H,  $(C_1-C_6)$ alkyl,  $(C_2-C_6)$ alkenyl, or  $(C_2-C_6)$ alkynyl; and

10 (f) b is 0 or 1 and optionally the ring contains one or more carbon-carbon bonds that when present complete one or more carbon-carbon double bonds.

31. A compound of the formula VI:



VI

or a pharmaceutically acceptable salt, hydrate, solvate, or mixture thereof, wherein:

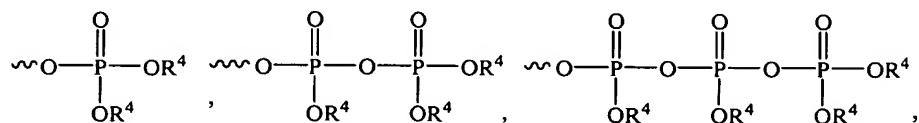
15 (a) each occurrence of  $R^1$ ,  $R^2$ ,  $R^6$ ,  $R^7$ ,  $R^{11}$ , or  $R^{12}$  is independently hydrogen,  $(C_1-C_6)$ alkyl,  $(C_2-C_6)$ alkenyl,  $(C_2-C_6)$ alkynyl, phenyl, or benzyl;

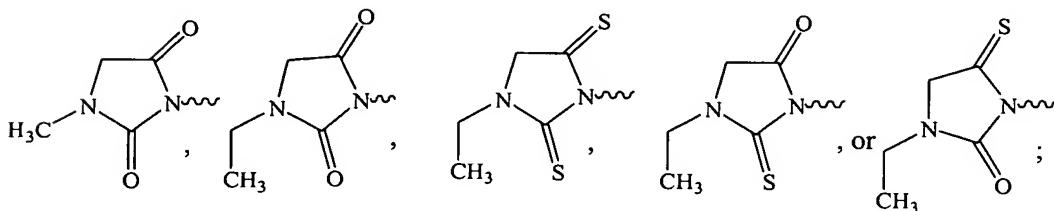
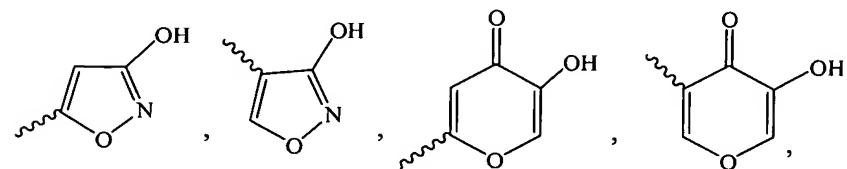
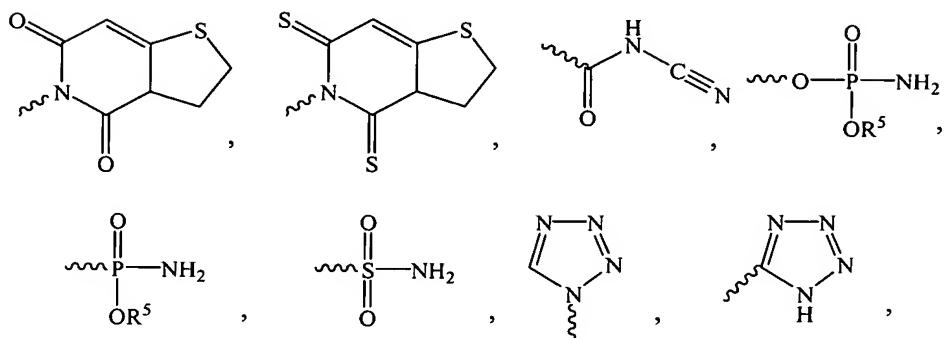
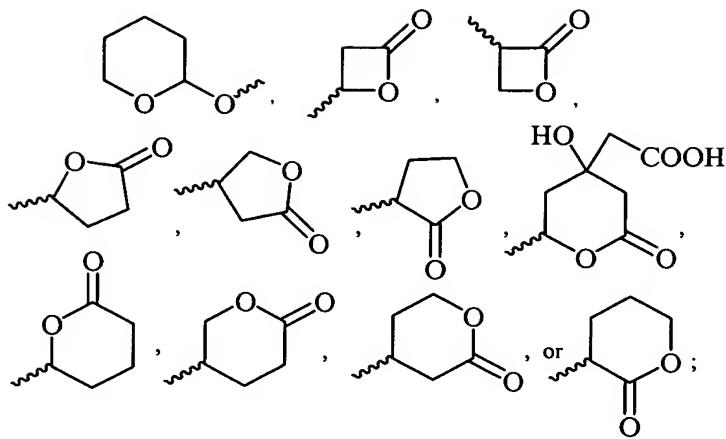
(b) each occurrence of n is independently an integer ranging from 1 to 7;

(c) X is  $(CH_2)_z$  or Ph, wherein z is an integer from 0 to 4 and Ph is a 1,2-, 1,3-, or 1,4 substituted phenyl group;

20 (d) each occurrence of m is independently an integer ranging from 0 to 4;

(e) each occurrence of  $Y^1$  and  $Y^2$  is independently  $(C_1-C_6)$ alkyl,  $CH_2OH$ ,  $C(O)OH$ ,  $OC(O)R^3$ ,  $C(O)OR^3$ ,  $SO_3H$ ,





wherein:

5

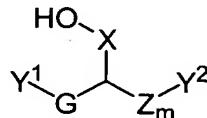
(i)  $R^3$  is  $(C_1-C_6)$ alkyl,  $(C_2-C_6)$ alkenyl,  $(C_2-C_6)$ alkynyl, phenyl, or benzyl and is unsubstituted or substituted with one or more halo, OH,  $(C_1-C_6)$ alkoxy, or phenyl groups,

(ii) each occurrence of  $R^4$  is independently H,  $(C_1-C_6)$ alkyl,  $(C_2-C_6)$ alkenyl, or  $(C_2-C_6)$ alkynyl and is unsubstituted or substituted with one or two halo, OH,  $C_1-C_6$  alkoxy, or phenyl groups; and

(iii) each occurrence of  $R^5$  is independently H,  $(C_1-C_6)$ alkyl,  $(C_2-C_6)$ alkenyl, or  $(C_2-C_6)$ alkynyl; and

(f)  $b$  is 0 or 1 and optionally the ring contains one or more carbon-carbon bonds that when present complete one or more carbon-carbon double bonds.

5 32. A compound of the formula VII:



VII

or a pharmaceutically acceptable salt, hydrate, solvate, or mixture thereof, wherein

(a)  $Z$  is  $CH_2$ ,  $CH=CH$ , or phenyl, where each occurrence of  $m$  is independently an

10 integer ranging from 1 to 9, but when  $Z$  is phenyl then its associated  $m$  is 1;

(b)  $G$  is  $(CH_2)_x$ , where  $x$  is 1, 2, 3, or 4,  $CH_2CH=CHCH_2$ ,  $CH=CH$ ,  $CH_2-phenyl-CH_2$ , or phenyl;

(c) each occurrence of  $Y^1$  and  $Y^2$  is independently L, V,  $C(R^1)(R^2)-(CH_2)c-C(R^3)(R^4)-(CH_2)n-Y$ , or  $C(R^1)(R^2)-(CH_2)c-V$  where  $c$  is 1 or 2 and  $n$  is an integer ranging

15 from 0 to 4; when  $G$  is  $(CH_2)_x$ , where  $x$  is 1, 2, 3, or 4,  $W^2$  is  $CH_3$ ;

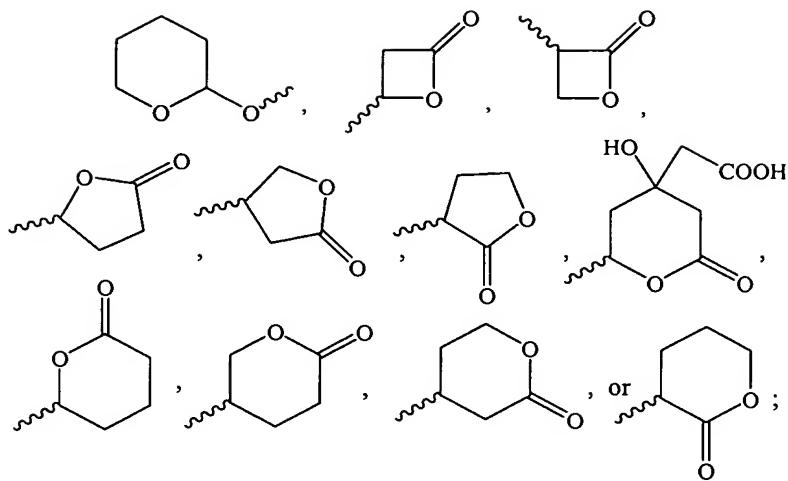
(d) each occurrence of  $R^1$  or  $R^2$  is independently  $(C_1-C_6)$ alkyl,  $(C_2-C_6)$ alkenyl,  $(C_2-C_6)$ alkynyl, phenyl, or benzyl or when one or both of  $Y^1$  and  $Y^2$  is  $C(R^1)(R^2)-(CH_2)c-C(R^3)(R^4)-(CH_2)n-W$ , then  $R^1$  and  $R^2$  can both be H to form a methylene group;

20 (e)  $R^3$  is H,  $(C_1-C_6)$ alkyl,  $(C_2-C_6)$ alkenyl,  $(C_2-C_6)$ alkynyl,  $(C_1-C_6)$ alkoxy, phenyl, benzyl, Cl, Br, CN,  $NO_2$ , or  $CF_3$ ;

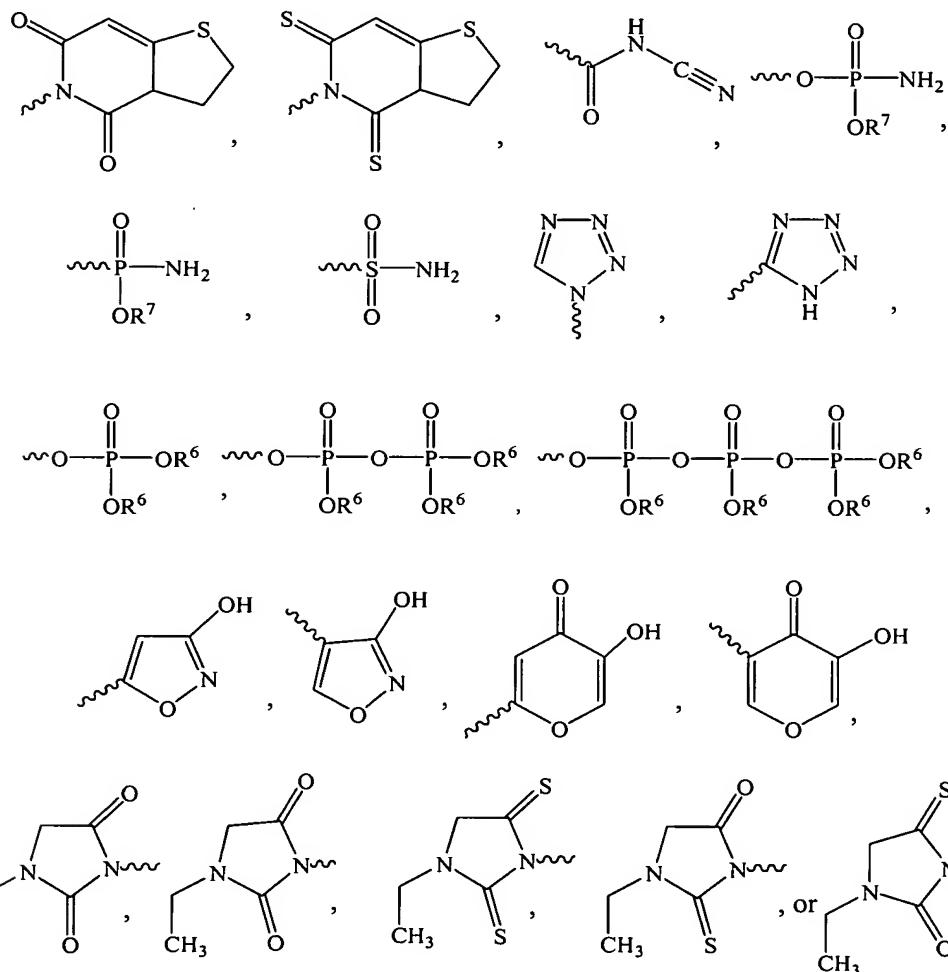
(f)  $R^4$  is OH,  $(C_1-C_6)$ alkyl,  $(C_2-C_6)$ alkenyl,  $(C_2-C_6)$ alkynyl,  $(C_1-C_6)$ alkoxy, phenyl, benzyl, Cl, Br, CN,  $NO_2$ , or  $CF_3$ ;

(g) L is  $C(R^1)(R^2)-(CH_2)n-W$ ;

25 (h) V is:



(i) each occurrence of W is independently OH, COOH, CHO, COOR<sup>5</sup>, SO<sub>3</sub>H,



wherein:

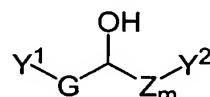
(i) R<sup>5</sup> is (C<sub>1</sub>–C<sub>6</sub>)alkyl, (C<sub>2</sub>–C<sub>6</sub>)alkenyl, (C<sub>2</sub>–C<sub>6</sub>)alkynyl, phenyl, or benzyl and is unsubstituted or substituted with one or more halo, OH, (C<sub>1</sub>–C<sub>6</sub>)alkoxy, or phenyl groups,

(ii) each occurrence of  $R^6$  is independently H, ( $C_1-C_6$ )alkyl, ( $C_2-C_6$ )alkenyl, or ( $C_2-C_6$ )alkynyl and is unsubstituted or substituted with one or two halo, OH, ( $C_1-C_6$ ) alkoxy, or phenyl groups;

5 (iii) each occurrence of  $R^7$  is independently H, ( $C_1-C_6$ )alkyl, ( $C_2-C_6$ )alkenyl, or ( $C_2-C_6$ )alkynyl; and

(j) X is  $(CH_2)_z$  or Ph, wherein z is an integer from 0 to 4.

33. A compound of the formula **VIII**:



10

**VIII**

or a pharmaceutically acceptable salt, hydrate, solvate, or mixture thereof, wherein

(a) each occurrence of Z is independently  $CH_2$ ,  $CH=CH$ , or phenyl where each occurrence of m is independently an integer ranging from 1 to 9, but when Z is phenyl then m is 1;

15 (b) G is  $(CH_2)_x$ ,  $CH_2CH=CHCH_2$ ,  $CH=CH$ ,  $CH_2$ -phenyl- $CH_2$ , or phenyl, where x is 1 to 7,

(c)  $W^1$  and  $W^2$  are independently L, V, G,  $C(R^1)(R^2)-(CH_2)c-C(R^3)(R^4)-(CH_2)n-Y$ , or  $C(R^1)(R^2)-(CH_2)c-V$  where c is 1 or 2 and n is an integer ranging from 0 to 7; when G is  $(CH_2)_x$ , where x is 1, 2, 3, or 4,  $W^1$  is  $CH_3$ ;

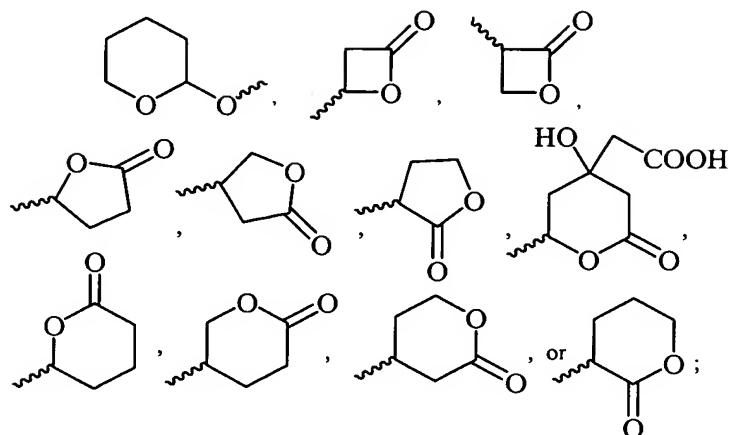
20 (d) each occurrence of  $R^1$  or  $R^2$  is independently -H, ( $C_1-C_6$ )alkyl, ( $C_2-C_6$ )alkenyl, ( $C_2-C_6$ )alkynyl, phenyl, or benzyl or when one or both of  $W^1$  and  $W^2$  is  $C(R^1)(R^2)-(CH_2)c-C(R^3)(R^4)-(CH_2)n-Y$ , then  $R^1$  and  $R^2$  can both be H to form a methylene group;

25 (e)  $R^3$  is H, ( $C_1-C_6$ )alkyl, ( $C_2-C_6$ )alkenyl, ( $C_2-C_6$ )alkynyl, ( $C_1-C_6$ )alkoxy, phenyl, benzyl, Cl, Br, CN,  $NO_2$ , or  $CF_3$ ;

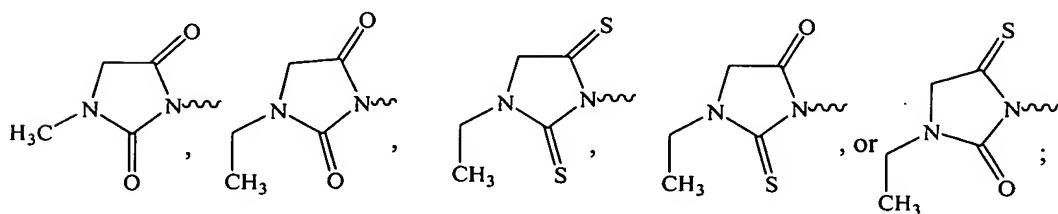
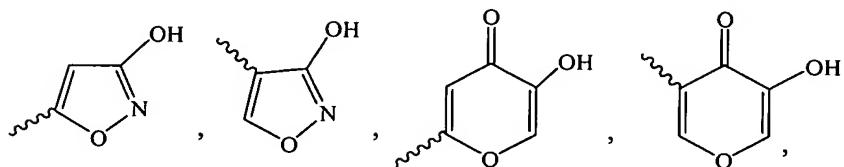
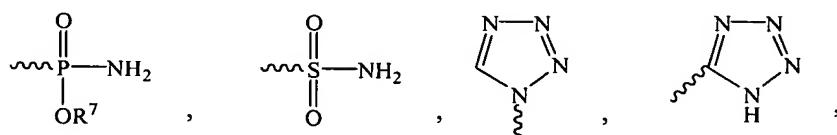
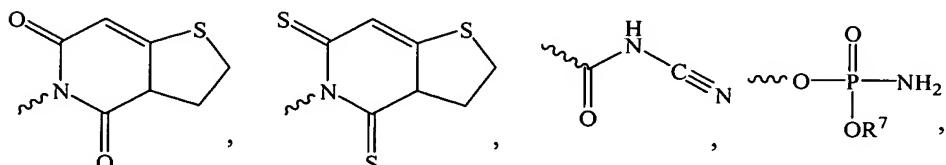
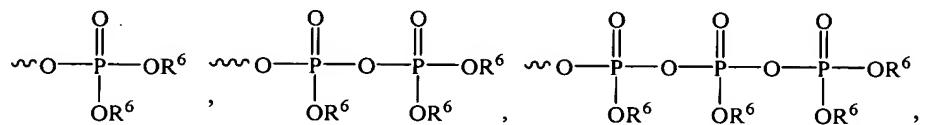
(f)  $R^4$  is H, OH, ( $C_1-C_6$ )alkyl, ( $C_2-C_6$ )alkenyl, ( $C_2-C_6$ )alkynyl, ( $C_1-C_6$ )alkoxy, phenyl, benzyl, Cl, Br, CN,  $NO_2$ , or  $CF_3$ ;

(g) L is  $C(R^1)(R^2)-(CH_2)n-Y$ ;

(h) V is:



(i) each occurrence of  $Y^1$  and  $Y^2$  is independently H,  $CH_3$ , OH,  $COOH$ ,  $CHO$ ,  $COOR^5$ ,  
5  $SO_3H$ ,



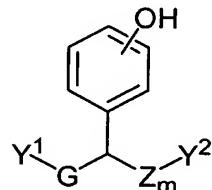
wherein:

(i)  $R^5$  is H,  $(C_1\text{-}C_6)$ alkyl,  $(C_2\text{-}C_6)$ alkenyl,  $(C_2\text{-}C_6)$ alkynyl, phenyl, or benzyl and is unsubstituted or substituted with one or more halo, OH,  $(C_1\text{-}C_6)$ alkoxy, or phenyl groups,

5 (ii) each occurrence of  $R^6$  is independently H,  $(C_1\text{-}C_6)$ alkyl,  $(C_2\text{-}C_6)$ alkenyl, or  $(C_2\text{-}C_6)$ alkynyl and is unsubstituted or substituted with one or two halo, OH,  $(C_1\text{-}C_6)$ alkoxy, or phenyl groups; and

(iii) each occurrence of  $R^7$  is independently H,  $(C_1\text{-}C_6)$ alkyl,  $(C_2\text{-}C_6)$ alkenyl, or  $(C_2\text{-}C_6)$ alkynyl.

10 34. A compound of the formula **IX**:



**IX**

or pharmaceutically acceptable salt, hydrate, solvate, or mixture thereof, wherein

15 (a) each occurrence of Z is independently  $CH_2$ ,  $CH\text{-}CH$ , or phenyl, where each occurrence of m is independently an integer ranging from 1 to 9, but when Z is phenyl then its associated m is 1;

(b) G is  $(CH_2)_x$ , where x is 1 to 7,  $CH_2CH=CHCH_2$ ,  $CH=CH$ ,  $CH_2\text{-}phenyl\text{-}CH_2$ , or phenyl;

20 (c)  $W^1$  and  $W^2$  are independently L, V,  $C(R^1)(R^2)\text{-}(CH_2)c\text{-}C$ , or  $C(R^3)(R^4)\text{-}(CH_2)n\text{-}Y$  or  $C(R^1)(R^2)\text{-}(CH_2)c\text{-}V$  where c is 1 or 2 and n is an integer from 0 to 4; when G is  $(CH_2)_x$ , where x is 1 to 7,  $W^2$  is  $CH_3$ ;

(d) each occurrence of  $R^1$  or  $R^2$  is independently  $(C_1\text{-}C_6)$ alkyl,  $(C_2\text{-}C_6)$ alkenyl,  $(C_2\text{-}C_6)$ alkynyl, phenyl, or benzyl, and  $R'$  and  $R^2$  can both be H when one or both of  $W^1$  and  $W^2$  is  $C(R')(R^2)\text{-}(CH_2),\text{,-}C(R^3)(R^4)\text{-}(CH_2)\text{-}Y$ ;

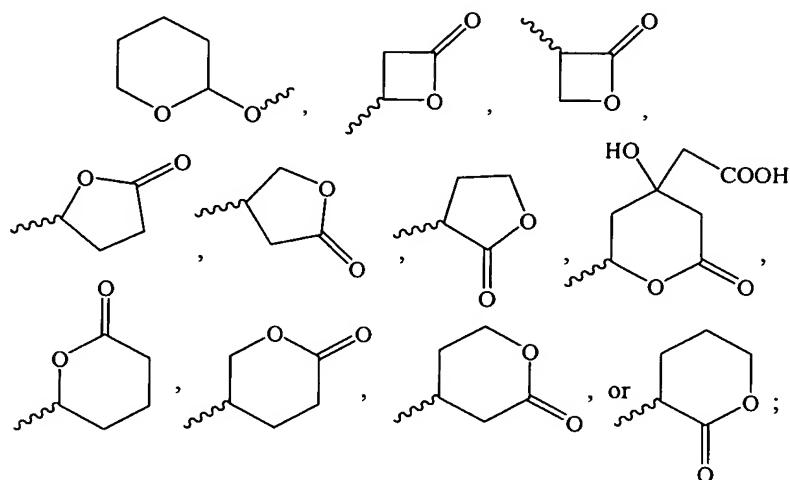
25

(e)  $R^3$  is H, ( $C_1$ - $C_6$ )alkyl, ( $C_2$ - $C_6$ )alkenyl, ( $C_2$ - $C_6$ )alkynyl, ( $C_1$ - $C_6$ )alkoxy, phenyl, benzyl, Cl, Br, CN,  $NO_2$ , or  $CF_3$ ;

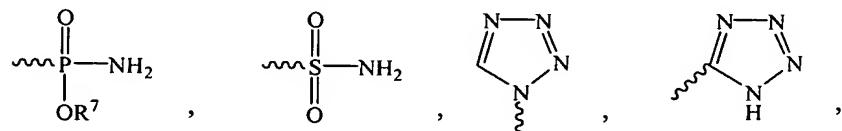
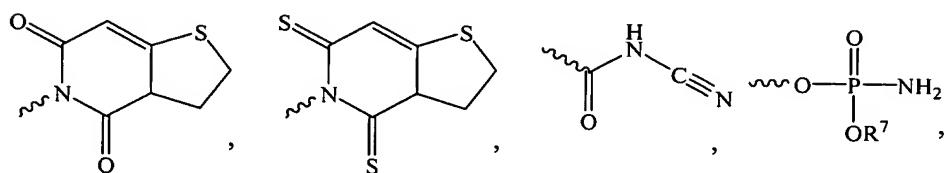
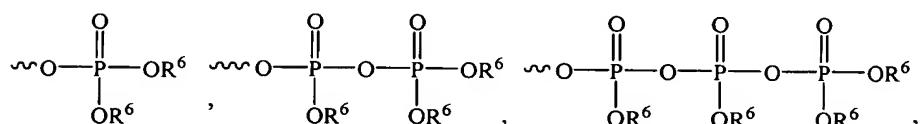
(f)  $R^4$  is OH, ( $C_1$ - $C_6$ )alkyl, ( $C_2$ - $C_6$ )alkenyl, ( $C_2$ - $C_6$ )alkynyl, ( $C_1$ - $C_6$ )alkoxy, phenyl, benzyl, Cl, Br, CN,  $NO_2$ , or  $CF_3$ ;

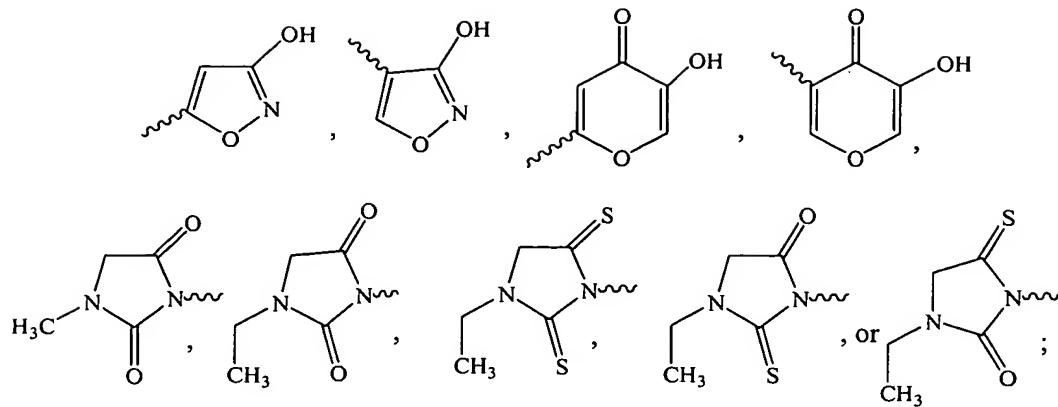
5 (g) L is  $C(R^1)(R^2)-\{CH_2\}n-Y$ ;

(h) V is:



(i) each occurrence of  $Y^1$  and  $Y^2$  is independently OH, COOH, CHO,  $COOR^5$ ,  $SO_3H$ ,





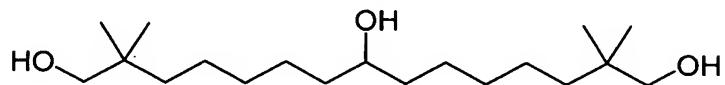
wherein:

(i)  $R^5$  is  $(C_1-C_6)$ alkyl,  $(C_2-C_6)$ alkenyl,  $(C_2-C_6)$ alkynyl, phenyl, or 5  
benzyl and is unsubstituted or substituted with one or more halo, OH,  $(C_1-C_6)$ alkoxy, or phenyl groups,

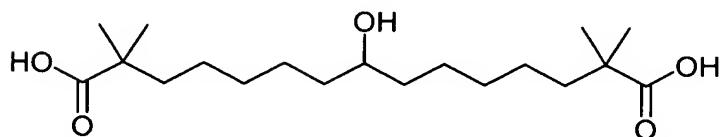
(ii) each occurrence of  $R^6$  is independently H,  $(C_1-C_6)$ alkyl,  $(C_2-C_6)$ alkenyl, or  $(C_2-C_6)$ alkynyl and is unsubstituted or substituted with one or two halo, OH,  $(C_1-C_6)$ alkoxy, or phenyl groups; and

(iii) each occurrence of  $R^7$  is independently H,  $(C_1-C_6)$ alkyl,  $(C_2-C_6)$ alkenyl, or  $(C_2-C_6)$ alkynyl. 10

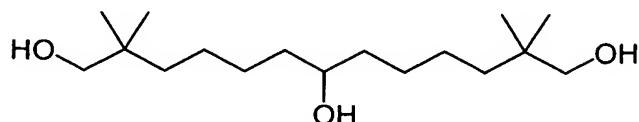
35. A compound of structure:



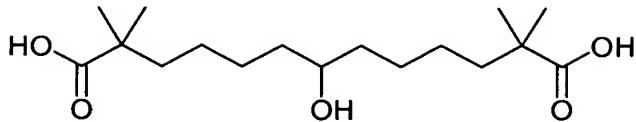
2,2,14,14-Tetramethyl-pentadecane-1,8,15-triol;



8-Hydroxy-2,2,14,14-tetramethyl-pentadecanedioic acid;



2,2,12,12-Tetramethyl-tridecane-1,7,13-triol;



7-Hydroxy-2,2,12,12-tetramethyl-tridecanedioic acid;

36. A pharmaceutical composition comprising a compound of claim 1, 11, 28,  
5 29, 30, 31, 32, 33, 34, or 35 and a pharmaceutically acceptable vehicle, excipient, or diluent.

37. A pharmaceutical composition comprising a compound of claim 1, 11, 28,  
29, 30, 31, 32, 33, 34, or 35 and further comprising a second therapeutic agent.

38. A method for treating or preventing aging, Alzheimer's Disease, cancer,  
cardiovascular disease, diabetic nephropathy, diabetic retinopathy, a disorder of glucose  
10 metabolism, dyslipidemia, dyslipoproteinemia, hypertension, impotence, inflammation,  
insulin resistance, lipid elimination in bile, obesity, oxysterol elimination in bile,  
pancreatitis, pancreatitis, Parkinson's disease, a peroxisome proliferator activated receptor-  
associated disorder, phospholipid elimination in bile, renal disease, septicemia, Syndrome  
X, thrombotic disorder, modulating C reactive protein, or enhancing bile production in a  
15 patient, comprising administering to a patient in need of such treatment or prevention a  
therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30,  
31, 32, 33, 34, or 35.

39. A method for treating or preventing a cardiovascular disease in a patient,  
comprising administering to a patient in need of such treatment or prevention a  
20 therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29,  
30, 31, 32, 33, 34, or 35.

40. A method for treating or preventing a dyslipidemia in a patient, comprising  
administering to a patient in need of such treatment or prevention a therapeutically,  
effective amount of a compound of claim 1, 11, 28, 29, 30, 31, 32, 33, 34, or 35.

25 41. A method for treating or preventing a dyslipoproteinemia in a patient,  
comprising administering to a patient in need of such treatment or prevention a  
therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29,  
30, 31, 32, 33, 34, or 35.

42. A method for treating or preventing a disorder of glucose metabolism in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, 31, 32, 33, 34, or 35.

5 43. A method for treating or preventing Alzheimer's disease in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, 31, 32, 33, 34, or 35.

10 44. A method for treating or preventing Syndrome X in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, 31, 32, 33, 34, or 35.

15 45. A method for treating or preventing septicemia in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, 31, 32, 33, 34, or 35.

20 46. A method for treating or preventing a thrombotic disorder in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, 31, 32, 33, 34, or 35.

47. A method for treating or preventing a peroxisome proliferator activated receptor associated disorder in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, 31, 32, 33, 34, or 35.

25 48. A method for treating or preventing obesity in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or effective amount of a compound of claim 1, 11, 28, 29, 30, 31, 32, 33, 34, or 35.

49. A method for treating or preventing pancreatitis in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, 31, 32, 33, 34, or 35.

5 50. A method for treating or preventing hypertension in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, 31, 32, 33, 34, or 35.

10 51. A method for treating or preventing renal disease in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, 31, 32, 33, 34, or 35.

52. A method for treating or preventing cancer in a patient, comprising administering to a patient in claim 1, 11, 28, 29, 30, 31, 32, 33, 34, or 35.

15 53. A method for treating or preventing inflammation in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, 31, 32, 33, 34, or 35.

20 54. A method for treating or preventing impotence in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, 31, 32, 33, 34, or 35.

25 55. A method for treating or preventing a neurodegenerative disease or disorder in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, 31, 32, 33, 34, or 35.

56. A method of inhibiting hepatic fatty acid synthesis in a patient, comprising administering to a patient in need thereof a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, 31, 32, 33, 34, or 35.

57. A method of inhibiting sterol synthesis in a patient, comprising  
5 administering to a patient in need thereof a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29, 30, 31, 32, 33, 34, or 35.

58. A method of treating or preventing metabolic syndrome disorders in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 11, 28, 29,  
10 30, 31, 32, 33, 34, or 35.

59. A method of treating or preventing a disease or disorder that is capable of being treated or prevented by increasing HDL levels, which comprises administering to a patient in need of such treatment or prevention a therapeutically effective amount of a compound of claim 1, 11, 28, 29, 30, 31, 32, 33, 34, or 35.

15 60. A method of treating or preventing a disease or disorder that is capable of being treated or prevented by lowering LDL levels, which comprises administering to such patient in need of such treatment or prevention a therapeutically effective amount of a compound of claim 1, 11, 28, 29, 30, 31, 32, 33, 34, or 35.

61. A pharmaceutical composition comprising a compound of claim 1, 11, 28,  
20 29, 30, 31, 32, 33, 34, or 35 and a pharmaceutically acceptable vehicle, excipient, or diluent which is administered in combination with a statin.